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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,858	04/19/2005	Ian Alastair Kirk	8830-334US1 (209104)	4000

7590 09/10/2008  
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EXAMINER
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HARCOURT, BRAD

ART UNIT	PAPER NUMBER
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3676

MAIL DATE	DELIVERY MODE
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09/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,858	<b>Applicant(s)</b> KIRK ET AL.	
	<b>Examiner</b> Brad Harcourt	<b>Art Unit</b> 3676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,14-19,21-34 and 36-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-12,14-19,21-34 and 36-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/27/2008</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14, 18 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1 and 31 require that the passage has axial and spiral portions and therefore can not have constant dimensions. Claims 14 and 34 contradict claims 1 and 31 as they recite that the passage has constant dimensions. Claim 18 contradicts claim 1 as it requires that the inclined surface is constant throughout the passage.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-11, 15-17, 25, 26, 28, 31-33, 36, 39, 42 and 43 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Baker (US Patent No. 2,168,846).

Baker discloses a flow control insert adapted to be positioned within a downhole conduit (Fig. 1), the flow control insert 10 comprising a decelerating means 15 for slowing down the flow of fluid through the downhole conduit, wherein the decelerating

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means comprises a passage 14 which includes at least one spiral portion and an axial portion at each of its ends (Fig. 1).

In reference to claim 3, the passage 14 is defined by at least one body member 15 having formations thereon.

In reference to claim 4, member 12 is considered to be a shoe.

In reference to claims 5-10, passage 14 “is anchored into the concrete plug 11” (col. 1, lines 28-29) and therefore is considered to be axially and rotationally latched/locked in place.

In reference to claim 11, the aluminum tube that defines passage 14 is a shroud around body member 15.

In reference to claim 15, the ends of passage 14 are smooth and free of obstructions (Fig. 1).

In reference to claims 16, 17, 32 and 33, body member 15 forms inclined passages relative to the axis of the conduit and the plane perpendicular to the conduit. Member 15 decelerates fluid passing over it.

In reference to claims 25, 26 and 39, spiral shaped body members would inherently induce turbulence and alter the flow direction.

In reference to claim 28, the conduit is a “string of well casing” (col. 1, lines 22-23).

In reference to claim 31, cementing operations as known in the art include pumping cement down through the cement string and out into the annulus around the string. In this case, cement flows in an axial direction through the string, a spiral direction through body member 15, and then again in an axial direction as it flows up the annulus.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (US Patent No. 2,168,846).

Baker discloses all of the limitations of the above claims with the exception of the exact degree that the spiral passages are inclined. It would have been obvious to a person having ordinary skill in the art at the time of the invention to incline the passages of Baker between 70 and 80 degrees so that cement is equally distributed around the cement string.

Claims 19, 29, 30 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (US Patent No. 2,168,846) in view of Dillon et al. (US Patent No. 5,346,007).

Baker discloses all of the limitations of the above claims with the exception of making the apparatus uni-directional. Dillon discloses a float shoe 19 with a passage 23 and a check valve 24. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include a check valve/float shoe on the bottom of a cement string of Baker in view of Dillon so that cement does not flow back into the string.

In reference to claim 29, valve 24 has a smaller cross sectional area than passage 17.

Claims 12 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (US Patent No. 2,168,846) in view of Brown et al. (US Patent No. 6,723,158).

Baker discloses all of the limitations of the above claims with the exception of having a shroud around a decelerating member that has apertures in the sidewall thereof. Brown discloses a spiral flow control member 79 with a shroud 77 having apertures 81 therein. It would have been obvious to a person having ordinary skill in the art at the time of the invention to include a shroud having apertures therein on the apparatus of Baker in view of Brown so that fluid flow through the passage can be decelerated more by reducing the total flow through the passage.

Claims 23, 24, 27, 37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker (US Patent No. 2,168,846) in view of Brockman et al. (US Patent No. 6,311,774).

Baker discloses all of the limitations of the above claims with the exception of including a second opposite spiral member. Brockman discloses first spiral section 72 and a second opposite spiral section 74 with a space in between (Fig. 7). It would have been obvious to a person having ordinary skill in the art at the time of the invention to include opposing spiral portions to provide a better adhesive bond for cement on the apparatus of Baker in view of Brockman.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brad Harcourt whose telephone number is (571)272-7303. The examiner can normally be reached on Monday through Friday from 8:30 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Gay can be reached on 571-272-7029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer H Gay/  
Supervisory Patent Examiner, Art  
Unit 3676

BH  
9/08/08